

REMARKS

In the last Office Action, the Examiner rejected claim 34 under 35 U.S.C. § 112, ¶ 2 as indefinite. The Examiner also rejected claims 1, 5, 21, and 29–37 under 35 U.S.C. § 103(a) as unpatentable over Japanese KOKAI publication number 3-13576 (“*Isaka*”). Applicants propose canceling claims 35–37, without prejudice or disclaimer of the subject matter contained therein, and adding new claims 38 and 39. Thus, upon entry of this amendment, claims 1, 5, 21, 29–34, 38, and 39 will be pending. Applicants do not address the rejection of claims 35–37, which is rendered moot by the proposed cancellation of these claims.

Interview

Applicants wish to express gratitude to Examiner for the courtesy extended to Applicant’s representative in granting interviews on May 21, 2004,¹ and July 21, 2004.²

Formal Drawings

Applicants respectfully request review of the formal drawings submitted as part of the application filed April 27, 2002. The Office Action dated January 16, 2002 (Paper No. 6) included an attachment indicating that the drawings have not been reviewed because, “The drawings submitted with this application were declared informal by the applicant.” However, the record contains no such declaration. The cover sheet filed with the original application clearly indicates under item number 3: “Drawings - 5 sheets

¹ Applicants note that the May 21, 2004 Interview Summary erroneously indicates that Agreement was reached.

² For completeness, the July 21, 2004 Interview Summary should also indicate that claim 31 was discussed.

of formal drawings containing 12 figures.” To date, there has been no indication that the Formal Drawings have been considered.

Amendment

Applicants propose amending claim 34 as indicated in the listing of the claims to more appropriately define the invention. Applicants propose canceling claims 35–37 without prejudice or disclaimer of the subject matter contained therein. And Applicants propose adding new claims 38 and 39, which depend from claims 5 and 34 and incorporate subject matter recited in claims 29 and 1, respectively. Thus, no new issue is raised by these proposed amendments.

Rejection under § 112, ¶ 2

The Examiner rejected claim 34 under § 112, ¶ 2 as indefinite. Specifically, the Examiner alleges, “Claim 34 recites the limitation ‘said vapor’ in line 5. There is insufficient antecedent basis for this limitation in the claim.” (April 21, 2004 Office Action at 2.) By this amendment, Applicants propose amending claim 34, which clarifies the antecedent basis for “the vapor” recited in line 5 of the claim. Applicants kindly request withdrawal of this rejection of claim 34.

Rejection under § 103(a)

To establish a *prima facie* case of obviousness under §103(a), each of three requirements must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary

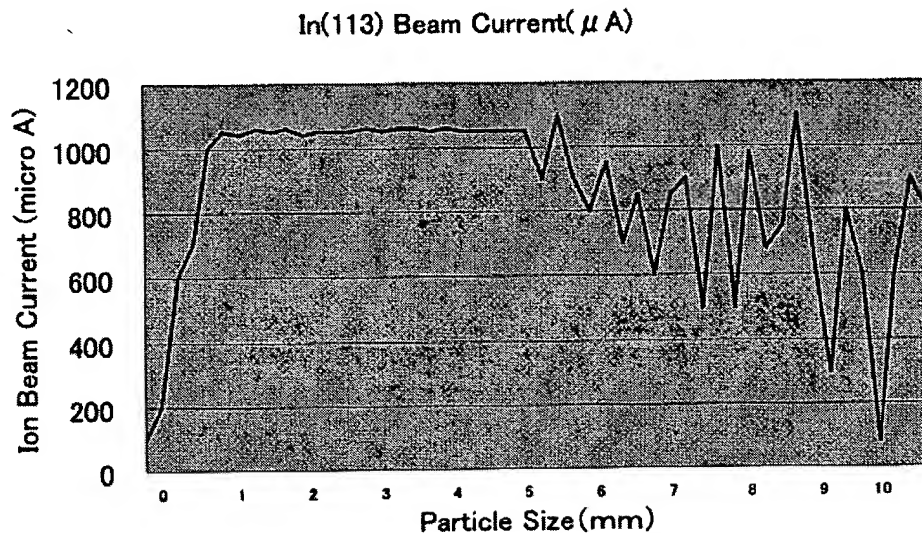
skill in the art, to combine references or modify a reference. (MPEP § 2143 (8th ed. Rev. Feb. 2003).) Second, there must be a reasonable expectation of success. (*Id.*) Moreover, both of these requirements must “be found in the prior art, and not based on applicant’s disclosure.” (*Id.*) Third, the reference or references, taken alone or in combination, must disclose or suggest every element recited in the claims. (MPEP §2143.03.)

Rejection of claims 1, 5, 21, 29, and 30

In the Office Action, the Examiner acknowledges that *Isaka* fails to disclose, “heating an ion source material composed of indium iodide (InI) and *having a particle size larger than 1 mm and not larger than 5 mm*,” (emphasis added) as recited in claim 1. Yet the Examiner alleges, without support, that these are obvious variations in design and, identifies no motivation to modify *Isaka* or expectation of success. In other words, the Examiner has not provided any of the three requirements for a *prima facie* showing of obviousness.

Isaka at best discloses “granular indium iodide.” (*Isaka*, abstract, translation at 4.) This would in no way motivate one to heat “an ion source material composed of indium iodide (InI) and *having a particle size larger than 1 mm and not larger than 5 mm*,” (emphasis added) as recited in claim 1. The Examiner must provide a suggestion or motivation to modify *Isaka*, must identify a reasonable expectation of success, and must cite references that alone or in combination disclose or suggest every element recited in the claim. The rejection lacks each of these criteria.

Moreover, the Examiner alleges that the Applicants do not demonstrate “what and/or how the results that are difference [sic] between vaporizing different particle sizes.” (April 21, 2004 Office Action at 3.) On the contrary, during the May 21, 2004 interview with the Examiner, Applicants’ representative provided the following graphical information demonstrating the effect on the beam current of the varying particle size.



As is shown above, a particle size larger than 1 mm and not larger than 5 mm, produced a more stable beam current than particle sizes generally beyond this range. Even the Examiner expressed surprise at the results and requested additional information regarding testing conditions. During the July 21, 2004 interview, the Applicants’ representative presented the relevant testing conditions for the above data to the Examiner:

Arc voltage	90V
Arc current	2A
Source magnet current	40A
Oven temperature	340°C

Extraction voltage 30keV

Acceleration energy 30keV

Data obtained three minutes after the start of arc discharge

Applicants note, however, that the specific testing conditions should not be construed as additional claim limitations, which are nowhere recited in the claim.

For at least the foregoing reasons, Applicants submit claim 1 should be allowed. Applicants further submit that claims 21, 29, and 30 are likewise allowable at least because of their dependence from allowable claim 1.

Claim 5, while of different scope, contains recitations similar to those of claim 1, and recites, *inter alia*, “heating an ion source material composed of indium iodide (InI) and having a particle size larger than 1 mm and not larger than 5 mm to generate a vapor of said indium iodide (InI).” Since *Isaka* fails to disclose or suggest at least “heating an ion source material composed of indium iodide (InI) and having a particle size larger than 1 mm and not larger than 5 mm,” as recited claim 1, it likewise fails to disclose or suggest that language with respect to claim 5. Applicants submit that claim 5 is allowable at least for the reasons given with respect to claim 1.

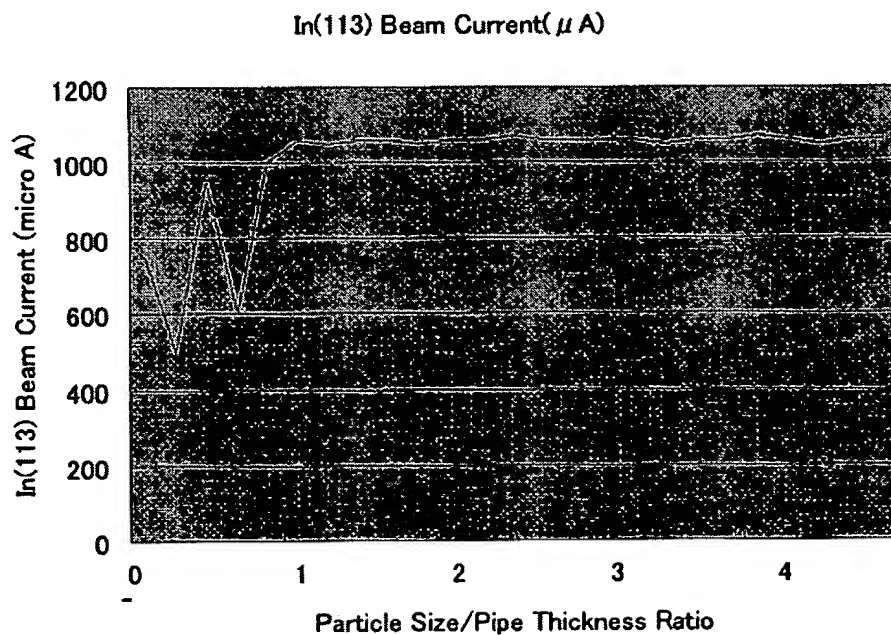
Rejection of claims 31, 32, 33, 34

Claim 31 recites, *inter alia*, “heating an ion source material composed of indium iodide (InI) which is supplied in an oven having a vapor outlet nozzle *and whose particle size is larger than a diameter of said outlet nozzle*” (emphasis added). *Isaka*, by contrast, discloses a particle size of indium iodide 3 *smaller* than the diameter of the outlet of vessel 4. (See *Isaka*, Figure 1.) Consequently, not only does *Isaka* fail to disclose or suggest each claim element, but instead *Isaka* teaches away from a “*particle*

size [being] larger than a diameter of said outlet nozzle,” as recited in claim 31. That is, *Isaka* fails to teach or suggest each claim element recited in claim 31, fails provide any expectation of success, and fails to provide any motivation to modify itself.

The Examiner further alleges that “Applicant does not prove what and/or how the results that are difference between vaporizing different particle sizes. Since vaporizing the particles having a size larger than 1 mm and not larger than 5 mm or larger than a diameter of the outlet nozzle to produce the molecule ions does not effect to the size and shape of that particles. (April 21, 2004 Office Action at 3.) Applicants disagree.

As shown in the following graph, presented to the Examiner during the May 21, 2004 Interview, a particle size greater than the pipe diameter produces a more stable beam current.



Moreover, during the May 21, 2004 interview, the Examiner expressed surprise at the above test results and requested additional information regarding the testing

conditions. These data were obtained under the same testing conditions as the data above at 9–10.

For at least the foregoing reasons demonstrating that *Isaka* does not present a proper prima facie case for obvious, Applicants therefore submit claim 31 is allowable over *Isaka* and request its timely allowance. Applicants further submit that claims 32 and 33 are likewise allowable at least because of their respective dependence from allowable claim 31.

Claim 34, while of different scope, includes recitations similar to those of claim 31, and recites, *inter alia*, “heating an ion source material composed of indium iodide (InI) which is supplied in an oven having a vapor outlet nozzle and whose particle size is larger than a diameter of said outlet nozzle.” For at least the reasons given with respect to claim 31, Applicants submit claim 34 is allowable and request its timely allowance.

New Claims 38 and 39

Claim 38 and 39 each depend from previously examined claims 5 and 34. Further, claims 38 and 39 incorporate subject matter recited in claims 29 and 1, respectively. Thus, no new issue is raised by these proposed amendments. Applicants submit that new claims 38 and 39 are allowable at least because of the dependence of each from an allowable bas claim.

Request for Withdrawal of Finality of Office Action

On March 22, 2004, Applicant filed a response to a December 23, 2003 Office Action. Applicants’ representative immediately contacted the Examiner to arrange an

interview to discuss the Office Action and response before the Office issued an additional communication. Applicants' representative intended to present the above graphical data to the Examiner to determine the preferred format the Examiner would like to receive it. The Examiner informed Applicants' representative that he would schedule an interview before issuing an Action, but could not do so presently since he did not have access to the file because of recent changes in PTO procedure. The Examiner instructed Applicants' representative to attempt scheduling an interview in a couple of weeks when he could check if he had access to the file. Applicants' representative called again at least on April 2, 14, 21, and 30 to inquire whether the Examiner was in a position to schedule an interview. Each time Applicants' representative was either informed that the Examiner could not yet access the file or received no response and called again.

Applicants' representative then received the April 21, 2004 Office Action and attempted to contact the Examiner on May 3, 5, and 10 to inquire why an Office Action had issued, when the Examiner previously informed Applicants' representative none would issue until after an interview. The Examiner did not return these calls and on May 12, 2004, Applicants' representative contacted John R. Lee who is listed as the Examiner's supervisor to inquire whether the file had been reassigned to a new Examiner. The Examiner contacted Applicants' representative on May 14, 2004 to schedule an interview for May 21, 2004.

Because Applicants' representative relied on the Examiner's representation that no Office Action would issue until after an interview, during which Applicants' representative would have presented the above additional information, Applicants

believe the April 21, 2004 Office Action issued prematurely and respectfully request withdrawal of its finality (MPEP § 706.07(d)) and the entry of this Amendment.

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1, 5, 21, and 29–34, 38 and 39 in condition for allowance. Applicants submit that the proposed amendments of claim 34 does not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Applicants respectfully submit that the entry of the Amendment would: (1) allow the Applicants to reply to the final rejections and place the application in condition for allowance; and (2) place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.


In view of the foregoing, Applicants submit that this claimed invention is neither anticipated nor rendered obvious in view of the prior art reference cited against this application. Applicants therefore request the entry of this Amendment, the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: July 21, 2004

By: 
Elizabeth A. Niemeyer
Reg. No. 52,070